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James J Ralabate  
5792 Main Street  
Williamsville, NY 14221

EXAMINER

HAN, QI

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/677,569

Applicant(s)

SCHULTZ, ROBERT G.

Examiner

Qi Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-27 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,3-27 and 29-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Response to Amendment***

2. This communication is responsive to the applicant's amendment dated 07/14/2003 (Paper 5). Applicant amended claims 1, 4, 7, 9 and 27, cancelled claims 2 and 28, and added claims 31 and 32.

3. The examiner withdraws the claim objections regarding claims 7 and 9, because applicant made corrections and/or amendments.

#### ***Response to Arguments***

4. Applicant's arguments with respect to the amended claims 1 and 27 (Paper 5, amendment: page 9, paragraphs 1-2) have been considered, but they are not persuasive.

In response to applicant's argument (regarding independent claims 1) that "there is not a disclosure, motivation, or suggestion in the cited prior arts that allows the DSP to server as the preprocessor of all speech input prior execution of instruction by the CPU as required by amended claim 1" and "this (Lambrecht' teaching) is completely different from the claimed invention" (amendment: page 9, paragraph 1), the examiner respectfully disagrees with the applicant and have a different view of the prior art teachings. Firstly, it is noted the 103 rejection

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is based on a combination of both Lambrecht and Hansen, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Secondly, since the arguments are based on the amended claim, the new detailed rejection will be addressed in the following section under “claim rejection 35 USC 103”, in which the rejection will make corresponding changes in order to reflect the amended claim. Thirdly, regarding applicant’ disagreement that the prior art “suggests that input audio data including speech can be processed prior to the CPU execution” (amendment: page 9, paragraph 1), the cited the prior art teaches the suggestion (see the rejection regarding the original claim 2 in previous office action), for example, multimedia device can be used for multimedia applications, including speech recognition (Lambrecht: column 1, lines 45-49) and can be an input type of device (Lambrecht: column 8, lines 22-23) so that input audio data can be speech and preprocessed in a multimedia device first, and then output for (prior to) the CPU execution.

The same rejection reason is also applied for applicant’ argument regarding claim 27 (amendment: page 9, paragraph 2).

### ***Claim Rejections - 35 USC § 112***

5. Claims 20, 22 and 26 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled

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in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding **claim 20**, it depends on claim 1 and recites a personal digital assistant (PDA) motherboard. Although, the amended parent claim (claim 1) replaces the limitation “a PCI to DSP bridge” with “a bridge”, the amended parent claim 1 still includes motherboard, a data bus, a CPU, a DSP chip and a bridge, and other related connections or components as claimed, which are only disclosed in detail for PCI bus based structure (specification: page 18-19). However, specification does not give detailed description to configure those components for a much smaller sized structure that usually pursuits higher integration of the circuit, such as PDA, cell telephones or wireless telephones, which can not enable an ordinary person in the art to make a smaller sized device, such as PDA, cell telephones or wireless telephones, having the claimed features, without undue effort.

Regarding **claim 22**, it depends on claim 1 and discloses a hand held computer motherboard; the rejection is based on the same reason as claim 20 since the claim has same or similar enablement problem (see above).

Regarding **claim 26**, it depends on claim 1 and discloses a computer motherboard that may be used in multiple devices, including cell telephones and wireless telephones; the rejection is based on the same reason as claim 20, since the claim has same or similar enablement problem (see above).

6. Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described

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in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding new added **claim 31**, it depends on claim 1. In the specification, the claimed limitation "said DSP is enabled to accommodate full interpreting and processing of said speech without said CPU being utilized" is only suggested for applying "in command and control mode" (page 10, lines 10-15), however in the parent claim (claim 1) recites "in either command and control mode or continuous speech mode", which suggests that the claim limitation is also applied "in continuous speech mode" which is not disclosed in the specification, so that the claim introduces new subject matter. The examiner interprets the limitation, in light of the specification, as "in command and control mode, said DSP is enabled to accommodate full interpreting and processing of said speech without said CPU being utilized" hereinafter.

### ***Claim Rejections - 35 USC § 103***

7. Claims 1-3, 5-8, 10, 17-19, 21, 23-28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambrecht et al. (USPN 5,951,664) hereinafter referenced as Lambrecht, in view of Hansen et al (USPN 5,640,490) hereinafter referenced as Hansen.

Regarding **claim 1**, Lambrecht discloses a computer system having a multimedia bus and including improved time slotting and bus allocation, for optimized real-time applications (abstract). Lambrecht further discloses that:

- a. a block diagram of motherboard 200 (Fig. 4) of the computer system comprises the CPU 102 (Fig. 1 and 4), the chipset logic 106, the main memory 110, the real-time or multimedia bus 130 (column 11, lines 39-44), input/output device 142-146

(Fig. 1) including multimedia and communication devices (column 8, lines 31-32) for processing periodic data including audio data (column 9, lines 1-2), wherein power interface is inherently included, which reads on the claimed “a computer motherboard architecture comprising: a computer motherboard possessing typical components including a CPU, a data bus, a power interface, and an audio input data pathway, said audio input data pathway connecting the audio input of the motherboard to the CPU;”

b. the multimedia device 142 (Figs. 1 and 2) may also include a digital signal processor (DSP) 210 or other hardware circuitry for implementing the multimedia communication function (column 8, lines 56-59), which reads on the claimed “a DSP chip in the audio input data pathway;”

c. each of the multimedia devices 142-146 (Figs. 1 and 2) preferably includes the interface logic 170, which reads on the claimed “a bridge interfacing between said DSP chip and the bus on the computer motherboard;”

d. main memory 110 (Fig. 1) (column 11, line 43) and/or multimedia memory 160 (Figs. 15 and 17) (column 21, line 3 and column 23, lines 5-6) and/or one or more ROMs or RAMs in the DSP (column 23, line 23) can be used for electrical connection to the DSP, which reads on the claimed “a memory in electrical connection to said DSP chip;” and

e. a general purpose DSP engine 210 (Fig. 15) that can be programmable to perform audio processing functions, includes one or more ROMs or RAMs which store microcode or instructions corresponding to video and audio processing instructions or commands, and in another embodiment, the DSP engine is not a general purpose DSP

engine but is instead a device that is optimized for the performance of one or more multimedia or communications functions (column 23, lines 15-37); the multimedia device may also include a digital signal processor (DSP) 210 (herein equivalently interpreted as preprocessor) (column 8, lines 56-57), which can be used for multimedia applications, including speech recognition (Lambrecht: column 1, lines 45-49) and can be an input type of device (Lambrecht: column 8, lines 22-23), so that input audio data can be speech and preprocessed in the multimedia input device first and then output for (prior to) the CPU execution; which reads on the claimed “a command and control speech engine residing in said memory of said DSP chip;” and “said DSP is serves as the preprocessor of all speech input prior to execution of instructions by the CPU to process the speech input.”

But, wherein Lambrecht does not expressly teach “speech engine” and fails to specifically disclose “said DSP is enable to operate in either command and control mode or continuous speech mode”. However, the examiner contends that the concept of providing a speech recognition mechanism (herein equivalent to the “speech engine”) for the audio data and using DSP for enabling operation in command mode and continuous speech mode was well known, as taught by Hansen.

In the same field of endeavor, Hansen discloses a user independent, real-time speech recognition system and method, for identifying the phoneme sound types that are contained within an audio speech signal (abstract). Hansen further discloses that a speech recognition system (herein equivalent to “speech engine”) at 10 (Figs. 1-2) includes sound recognition processor circuit 16 that can identify the phoneme sounds (column 5, lines 27-29) and other



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processor means including DSPs for processing the audio speech signal (column 4, line 34 through column 6, line 3), and that the spoken word may be passed as command to the operating system (herein equivalently interpreted as “command and control mode”) or application (column 27, lines 48-49), such as a wordprocessor (herein equivalently interpreted as “continuous speech mode”) (column 27, line 47).

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a speech recognition mechanism (herein equivalent to the “speech engine”) for the audio data and using DSP for enabling operation in command and control mode and continuous speech mode, as taught by Hansen, for the purpose of offering more real-time applications such as speech recognition (Lambrecht: column 1, lines 46-50) and recognizing continuous speech for the system.

Regarding **claim 3**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht fails to specifically disclose that “said DSP is operable to be dynamically set by a user in either a continuous speech mode or a command and control mode.” However, the examiner contends that the concept of providing a mechanism for dynamically setting a speech data mode or a command mode was well known, as taught by Hansen.

Hansen further discloses that if the Command Processor (Figs 11) is not in a command mode (herein equivalent to “command and control mode”), then the word will be sent directly to the current application as text (column 28, lines 9-11), which suggests that at least two modes the system can be dynamically set, command mode and speech data mode (herein equivalent to the “continuous speech mode”)(also see Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a mechanism for dynamically setting a speech data mode or a command mode, as taught by Hansen, for the purpose of offering more real-time applications such as speech recognition (Lambrecht: column 1, lines 46-50) and/or more widely marketable features for the product.

Regarding **claim 5**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht fails to specifically disclose that “said DSP chip is operable to convert said audio input into phonemes.” However, the examiner contends that the concept of providing a DSP for converting audio input into phonemes was well known, as taught by Hansen.

Hansen further discloses that the sound recognition processor 16 (Fig. 1) that includes DSP circuitry 18 (column 6, line 50 through column 7, line 7), extracts the corresponding phoneme sounds (column 5, lines 30-31).

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a DSP for converting audio input into phonemes, as taught by Hansen, for the purpose of promoting more real-time applications such as speech recognition (Lambrecht: column 1, lines 46-50) and/or offering more widely marketable features for the product.

Regarding **claim 6**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht fails to specifically disclose that “said speech engine includes a vocabulary of speech terms which are associated with specific instructions or contextual

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environments.” However, the examiner contends that the concept of providing a vocabulary in a speech recognition system was well known, as taught by Hansen.

Hansen further discloses that the sound recognition processor 16 (Fig. 1) that once the phonetic stream is identified, the system (herein equivalent to speech engine) is capable of recognizing a large vocabulary of words and phrases (column 28, lines 66-67). Hansen also discloses that a speaker-dependent system must be "trained" to a single speaker's voice by obtaining and storing a database of patterns for each vocabulary word uttered by that particular speaker, wherein the vocabulary size is limited by the specific vocabulary contained in the database (column 1, lines 52-60). Furthermore, Hansen discloses that the spoken word input as text directly into an application, such as a word-processor, or conversely, may be passed as a command to the operation system or application (column 27, lines 46-49), which reads on the claimed “speech terms which are associated with specific instruction or contextual environment.”

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a DSP for converting a vocabulary in a speech recognition system, as taught by Hansen, for the purpose of promoting more real-time applications such as speech recognition (Lambrecht: column 1, lines 46-50) and/or offering more widely marketable features for the product.

Regarding **claim 7**, under best understood in view of the claim objection (see above), Lambrecht and Hansen disclose everything claimed, as applied above (see claim 6). Since Lambrecht discloses that the DSP engine includes one or more ROMs or RAMs, as stated above (see claim 1), the combination of Lambrecht and Hansen under the same condition in claim 6, is

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inherently capable of storing a vocabulary in the memory of DSP engine, which reads on the claimed “said vocabulary of speech terms resides in said memory in electrical connected to said DSP chip”, wherein the limitation of “said memory of said DSP chip” is interpreted as “the memory in electrical connection to said DSP chip.”

Regarding **claim 8**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 6). Since Lambrecht discloses that the DSP is programmable and includes one or more ROMs or RAMs (column 23, lines 15-37), as stated above (see claim 1), the combination of Lambrecht and Hansen under the same condition in claim 6, is inherently capable of defining a vocabulary by a user and storing the vocabulary in the ROM (herein interpreted as strict mode) or in the RAM (herein interpreted as active mode), which reads on the claimed “said vocabulary of speech terms is able to be defined by a user, either in a static or active mode.”

Regarding **claim 10**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Since Lambrecht discloses that the system includes multimedia memory 160 (Figs. 15 and 17) (column 21, line 3 and column 23, lines 5-6), as stated above (see claim 1), the combination of Lambrecht and Hansen under the same condition in claim 6, is inherently capable of residing a software-based speech engine in multimedia memory for the DSP preprocessing, which reads on the claimed “said DSP chip is operable to perform preprocessing for a software-based speech engine residing elsewhere on a computer.”

Regarding **claim 17**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures, comprising motherboard, are personal computer systems that includes various user-operable features (column 1, lines 43-66), which suggests that the corresponding motherboard also has those

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features, which reads on the claimed "said computer motherboard is a user-supported computer motherboard."

Regarding **claim 18**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 17). Lambrecht further discloses that the computer architectures are personal computer systems that include various user-operable features (column 1, lines 43-66), which reads on the claimed "user-supported computer". But, Lambrecht fails to specifically disclose "a voice-activated user-supported computer." However, the examiner contends that the concept of providing a voice-activated function for a personal computer was well known, as taught by Hansen.

Hansen further discloses that if the Command Processor (Figs 11) is not in a command mode then the word will be sent directly to the current application as text (column 28, lines 9-11), wherein the command mode is a equivalently interpretation of voice-activated function, used by user.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a voice-activated function for a personal computer, as taught by Hansen, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claims 19 and 21**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures, comprising motherboard, are personal computer systems (column 1, lines 43-66) that inherently include the conventional portable computers and desktop computers, which reads on the claimed

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“a portable computer motherboard” (claim 19) and “a desktop computer motherboard” (claim 21).

Regarding **claim 23**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures comprising motherboard, are personal computer systems (column 1, lines 43-66), and that the system includes a multimedia bus and various types of multimedia devices including variety of video devices and sound devices (column 8, lines 16-32), so that the motherboard is suitable for video gaming system, which reads on the claimed “said computer motherboard is a video gaming system computer motherboard.”

Regarding **claim 24**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures comprise motherboard (column 11, line 38) and a multimedia bus and various types of multimedia devices and communication devices (column 8, lines 22-24), so that the motherboard is fully capable of functioning for computing and communication devices, which reads on the claimed “said computer motherboard is a computing and communications device computer motherboard.”

Regarding **claim 25**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures, comprising motherboard, are personal computer systems that include various user-operable features (column 1, lines 43-66), wherein personal computer inherently includes the conventional portable computers, laptop computers, desktop computers, and the computer with customized hardware and software applications, which reads on the claimed “said computer motherboard is a component of a member selected from the group consisting of user supported computers,

laptop computers, desktop computers, portable computers and mixtures thereof.”

Regarding **claim 26**, under best understood in view of the claim rejection under U.S.C. 112 2<sup>nd</sup> paragraph (see above), Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures, comprising motherboard, are personal computer systems that include various user-operable features (column 1, lines 43-66), wherein personal computer inherently includes the conventional portable computers, and that the compute architectures comprise a multimedia bus and various types of multimedia devices and communication devices (column 8, lines 22-24), so that the motherboard is fully capable of functioning for communication devices, which satisfies the limitation of the claimed “said computer motherboard is a component of a member selected from the group consisting of portable computers, communication means both hard wired and wireless and mixtures thereof.”

Regarding **claim 27**, it discloses a method, which corresponds to the apparatus of claims 1, 3 and 5. The method is obvious in that it simply provides functionality for the structure found in claims 1, 3 and 5.

Regarding **claim 31**, as best understood in view of claim rejection under 35 USC 112 1<sup>st</sup> (see above), Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht in view of Hansen further discloses that a speech recognition system 10 (Figs. 1-2) includes sound recognition processor circuit 16 that can identify the phoneme sounds and translates the series of identified phonemes into the corresponding syllable, word or phrase (Hansen: column 5, lines 27-35), and other processor means including DSPs for processing the audio speech signal (Hansen: column 4, line 34 through column 6, line 3), and that the spoken

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word may be passed as command to the operating system (herein equivalently interpreted as “command mode”) (Hansen: column 27, lines 48-49, and Fig. 11), so that at this point the processing need not utilize CPU of host computer (Figs. 1-2), which corresponds to the claimed “said DSP is operable to accommodate full interpreting and processing of said speech without said CPU being utilized”.

8. Claims 4, 9, 12-16, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambrecht in view of Hansen and further in view of well known prior art (MPEP 2144.03).

Regarding **claim 4**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose “said audio input data pathway comprises a microphone input, means for digitizing an audio input”. However, the examiner takes official notice of the fact that it was well known in the art to provide a microphone input and means for digitizing an audio input.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a microphone input and means for digitizing an audio input, for the purpose of promoting more real-time applications such as speech recognition and (Lambrecht: column 1, lines 46-50) and/or offering more widely marketable features for the product.

Regarding **claim 9**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 6). But, Lambrecht and Hansen fail to specifically disclose that “said vocabulary of speech terms is refreshed by the CPU based upon the context of an application running on a host



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processor.” However, the examiner takes official notice of the fact that it was well known in the art to provide a refreshed vocabulary based on an application.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a refreshed vocabulary based on an application, for the purpose of offering more widely marketable features for the product.

Regarding **claim 12**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP chip is operable to perform noise cancellation functions.” However, the examiner takes official notice of the fact that it was well known in the art to provide noise cancellation functions operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing noise cancellation functions operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 13**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP chip is operable to function in a command and control speech mode.” However, the examiner takes official notice of the fact that it was well known in the art to provide a command and control speech mode operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a command and

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control speech mode operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 14**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP chip is operable to function in a continuous speech mode.” However, the examiner takes official notice of the fact that it was well known in the art to provide a continuous speech mode operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a continuous speech mode operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 15**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP chip is operable to function in a mobile phone mode.” However, the examiner takes official notice of the fact that it was well known in the art to provide a mobile phone function operable for DSP operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a mobile phone function operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 16**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP is

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operable to function in a language translation mode.” However, the examiner takes official notice of the fact that it was well known in the art to provide a language translation function operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a language translation function operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 29**, the rejection is based on the same reason of the combined rejections for claims 1,3 and 4, because claim 29 has the same or similar limitation(s) as claims 1, 3 and 4.

Regarding **claim 30**, Lambrecht, Hansen and well-known prior art disclose everything claimed, as applied above (see claim 29). Lambrecht further discloses that the computer system comprises main memory 11 (fig. 1), memory bus 108, bridge 106, and arbitration logic 107 (column 7, lines 40-55), which provides hardware components for storage and communication. In addition, under the same combination condition as stated above (see claim 29, also see claims 1 and 3), Hansen suggests that the command processor is a portion of the software program for implementing certain algorithm to determine and control identified word or phrase (column 10, lines 12-19), which is incorporated with high level application and is interpreted as “operable” for user control. This reads on the claimed “said control means comprises a computer software program residing in a storage device in electrical communication with said motherboard which is operable to be controlled by a user.”

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9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lambrecht in view of Hansen, and further in view of Chang et al. (US 6,330,247) hereinafter referenced as Chang, and Oh et al. (USPN 6,275,806) hereinafter referenced as Oh.

Regarding **claim 11**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Since the combined system, as stated above (claim 1), have various multimedia input/output devices and can pass the spoken word as command to the operating system or application such as the word processor, which are inherently includes menu selection functions such as operating system provided windowing menu, or application provided object-oriented menu. Lambrecht and Hansen also disclose the speech recognition and the command mode, which inherently includes speech to signal conversion and voice control respectively. But, Lambrecht and Hansen fail to specifically disclose that “mobile phone audio functions comprising voice activated dialing and noise cancellation”. However, the examiner contends that the concept of providing functions of voice activated dialing and noise cancellation for a mobile device was well known, as taught by Chang and Oh.

In the same field of endeavor, Chang discloses communication protocol between a communication device and an external accessory. Chang further discloses voice dialing by using DSP 116 (Fig. 1) (column 8, lines 24-39), which is a selected portion of communication device 100, such as a portable cellular telephone, PCS telephone, PDA or the like (column 3, lines 12-14).

In addition, in the same field of endeavor, Oh discloses a system and method for improved speech acquisition for hands-free voice telecommunication in a noise environment.

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Oh further discloses adaptive noise canceller (ANC) for speech recognition (column 4, lines 2-23), which can be implemented by a DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing functions of voice activated dialing and noise cancellation for a mobile device, as taught by Chang and Oh, for the purpose of offering more widely marketable features for the product.

10. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lambrecht in view of Hansen, and further in view of Simar, Jr. et al. (US 6,182,203 B1) hereinafter referenced as Simar.

Regarding **claim 32**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht in view of Hansen discloses using DSP as preprocessor for speech recognition, which inherently reduces CPU power burden, but Lambrecht in view of Hansen does not expressly disclose “said DSP is enable to substantially reduce power consumption from a like system absent said DSP”. However this feature is well known in the art as evidenced by Simar who discloses a DSP device having a CPU and power-down logic to reduce power consumption (column 6, lines 30-52), providing power-down modes for power saving (column 53, line 28 through column 6, line 29). Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing power saving feature for a CPU, as taught by Simar, so that a DSP based preprocessor can enable a CPU into a power saving mode, for the purpose of offering more widely marketable features.

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any response to this office action should be mailed to:  
Commissioner of Patents and Trademarks, P.O. Box 1450, Alexandria, VA 22313-1450  
or faxed to:  
(703)-872-9314  
Hand-delivered responses should be brought to:  
Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone number is (703) 305-5631. The examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. and Friday from 8:00 a.m. to 12:00 a.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (703) 305-6954.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

QH/qh  
September 23, 2003

Richemond Dorvil  
Primary Examiner

